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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,514	04/27/2006	Duwayne R. Anderson	PHO-2.005.PCT.US	6793
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GANZ LAW, P.C. P O BOX 2200 HILLSBORO, OR 97123			EXAMINER GRAMLING, SEAN P	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/577,514	Applicant(s) ANDERSON ET AL.	
	Examiner Sean P. Gramling	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/27/06 and 7/5/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "offset" spherical or "offset" aspheric shape of the lens that Applicant recites in claims 1, 7, 14, 30 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-9** are rejected under 35 U.S.C. 102(b) as being anticipated by *Mize* (US 6,328,456).

4. Regarding claim 1, *Mize* discloses a lens 22 for collecting light from a light source 12 having plural sides, wherein the light source emits divergent light, comprising at least one lens 22 having a compound shape including curved surfaces 32 that are distributed around the light source (see Figure 2).

5. Regarding claim 2, the lens includes a flat top portion 32b separating the curved surfaces (see Figures 5-7).

6. Regarding claim 3, the spherical surfaces are equidistance from a center line 28 extending through the light source (see Figure 2).

7. Regarding claim 4, the lens is symmetric about a center line 28 extending through the light source (see Figure 2).

8. Regarding claim 5, the lens includes sections that collect light from respective portions of the light source (see Figures 3 and 5).

9. Regarding claim 6, each curved section of the lens includes geometry that is optimized for each portion of the light source from which that section of the lens collects light.

10. Regarding claim 7, the lens includes an offset aspheric shape (see column 4, lines 15-18).
11. Regarding claim 8, the lens includes a faceted surface 41 that approximates the aspheric shape (see Figure 8 and column 6, lines 17-25).
12. Regarding claim 9, the faceted surfaces have a symmetrically circular shape (see Figure 8).
13. **Claims 9-33, 35, 37 and 39-41** are rejected under 35 U.S.C. 102(b) as being anticipated by *Parkyn* (US 6,273,596).
14. Regarding claim 9, Parkyn discloses at least one lens having a compound shape including curved surfaces that are distributed around the light source, wherein the lens includes a faceted surface that approximates the aspheric shape and wherein the faceted surfaces have a square tile pattern (see Figures 5 and 16).
15. Regarding claim 10, the faceted surfaces have a square tile pattern (see Figure 16).
16. Regarding claim 11, the square tile pattern fully fills a surface of the lens (see Figure 16).
17. Regarding claim 12, the square tile pattern is formed from micro-pyramids (see Figure 16).
18. Regarding claim 13, the lens is an array of lenses (see Figure 10).
19. Regarding claim 14, Parkyn discloses an LED module comprising at least one lens 1101 having a compound shape including curved surfaces that are distributed around the light source 1110, wherein the lens includes a faceted surface that

approximates the aspheric shape and wherein the faceted surfaces have a square tile pattern (see Figures 5, 10 and 16).

20. Regarding claim 15, the module comprises an array of LED's 1110 (see Figure 10).

21. Regarding claim 16, each LED is associated with a lens having a compound shape including curved surfaces that are centered about each side of the LED (see Figure 10).

22. Regarding claim 17, the lens comprises an array of lens with each LED having an associated lens (see Figure 10).

23. Regarding claim 18, the lens includes a flat top portion separating the curved surfaces (see Figure 16 or 21).

24. Regarding claim 19, the spherical surfaces are equidistance from a center line extending through the light source (see Figure 6).

25. Regarding claim 20, the lens is symmetric about a center line extending through the light source (see Figure 6).

26. Regarding claim 21, the lens includes sections that collect light from respective portions of the light source (see Figure 6).

27. Regarding claim 22, each curved section of the lens includes geometry that is optimized for each portion of the light source from which that section of the lens collects light (see Figure 6).

28. Regarding claim 23, the lens includes an aspheric surface (see Figure 18 or 19).

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29. Regarding claim 24, the lens includes a faceted surface that approximates the aspheric shape (see Figure 18 or 19)

30. Regarding claim 25, the faceted surface has a symmetrically circular shape (see Figure 18 or 19).

31. Regarding claim 26, the faceted surface has a square tile pattern (see Figure 17).

32. Regarding claim 27, the square tile pattern fully fills a surface of the lens (see Figure 17).

33. Regarding claim 28, the square tile pattern is formed from micro-pyramids (see Figure 17).

34. Regarding claim 29, the LED module further comprises an array of LED's 1110 and an array of lenses, wherein each LED is associated with a respective lens (see Figure 10).

35. Regarding claim 30, Parkyn discloses a method comprising providing at least one lens having a compound shape including curved surfaces that are distributed around the light source, wherein the lens includes a faceted surface that approximates the aspheric shape and wherein the faceted surfaces have a square tile pattern (see Figures 5 and 16).

36. Regarding claim 31, the lens comprises a lens array (see Figure 10).

37. Regarding claim 32, the lens array is formed in a mold (see column 1, lines 25-31).

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38. Regarding claim 33, the each lens array includes faceted surfaces (see Figures 17 or 18).
39. Regarding claim 35, each lens is circularly symmetric (see Figures 10 and 18).
40. Regarding claim 37, each lens is formed of micro-pyramids in a square tile pattern (see Figure 17).
41. Regarding claim 39, the lens array is formed of glass (see column 1, lines 26-28).
42. Regarding claim 40, each lens is circularly symmetric (see Figure 18).
43. Regarding claim 41, each lens is formed of micro-pyramids in a square tile pattern (see Figure 17).

Claim Rejections - 35 USC § 103

44. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

45. **Claims 34, 36 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Parkyn, and further in view of Mize.
46. Regarding claims 34 and 36, Parkyn does not specify the method by which the lens array is formed into a mold, and does not specify the use of a grinder and grinding techniques. However, the use of a grinder and grinding techniques to mold a lens array is well known in the art, and is disclosed in Mize (see column 6, lines 61 through column 7, line 4). It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to grind the lens array in Parkyn as taught in Mize in order to lessen the disconformities of the surface (see Parky, column 7, lines 2-4).

47. Regarding claim 38, Parkyn does not specify that the material comprising the lens array be potting gel. Rather, Parkyn discloses a lens array of glass or plastic (see column 1, lines 26-28). However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use potting gel instead of glass or plastic since it has been held to be within the general skill of worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Gramling whose telephone number is (571) 272-9082. The examiner can normally be reached on MONDAY-FRIDAY 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.P.G.

Sean P Gramling
Examiner
Art Unit 2875


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